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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,207	09/25/2003	Aswin Chandramouleeswaran	200312616-1	2153

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HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

TRAN, VINCENT HUY

ART UNIT	PAPER NUMBER
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2115

DATE MAILED: 10/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/669,207

Applicant(s)

CHANDRAMOULEESWARAN ET AL.

Examiner

Vincent T. Tran

Art Unit

2115

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-21 is/are rejected.
- 7) ☒ Claim(s) 11 and 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is responsive to the communication filed on 9/6/06
2. Claims 1-22 are pending for examination.
3. The text of those sections of Title 35, U.S. code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 16 is rejected under 35 U.S.C. 112. If the trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the use of a trademark or trade name would not only render a claim indefinite, but would also constitute an improper user of the trademark or trade name.

Ex parte Simpson, 218 USPQ 1020 (Bd. APP. 1982).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 1-6, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fiamingo in view of Ori Pomerantz "Linux Kernel Module Programming Guide" Version 1.1.0, 26 April 1999 ("Pomerantz").

11. As per claim 1, Fiamingo teaches a user-defined tunable [page 1 of chapter 8.2.5], comprising:

a tunable name [p. 7 table 2 – Kernel variable];

an assigned value [table 2 – Variable value];

an expressions that related one or more kernel tunables to the user defined tunable [table 2 col. 3 row 3 – $\text{max_nprocs}^1 + 16 + \text{maxusers} + 64$], each of the kernel tunables having a parameter value defined by an expression, wherein a change to the assigned value of the user-defined tunable changes the parameter value of each of the kernel tunables.[inherent].

wherein the kernel tunable is a component of a kernel module stored in a computer readable medium [inherent].

Fiamingo only describes the methods that allows the system administration to define his or her own kernel module by tuning the parameters of the kernel tunable which created by an operating system developer.

Fiamingo does not explicitly teach that each of the kernel tunable being created by *a system administrator*.

However, this feature is an old and well know in the art of kernel module programming. As taught by Pomerantz in 2 of paragraph 0.1 “Who should read this”, anyone who want to write kernel modules can roll out his or own kernel modules from scratch. Therefore, it is obvious to one of ordinary skill in that art at the time of the invention was made that anyone including system administration who want to write a kernel module would able to write it, and further more, there is no rule in art of kernel module programming which prohibit the system administrator from creating his or her own kernel module.

Therefore, it would have been obvious to combine Fiamingo with Pomerantz to obtain the invention as specified in claim 1.

¹ max_nproc a related kernel tunables.

12. As per claim 2, Fiamingo disclose the user defined tunable is applied to a UNIX operating system [p. 1].
13. As per claim 3, Fiamingo disclose the expression relating the user defined tunable to the one or more kernel tunables is of the form of an arithmetic expression involving integers and other tunable names [table 2 p. 7; line 1 of p. 7 set module:variable = value].
14. As per claim 4, Fiamingo disclose the arithmetic expression [table 2 p. 7].
15. As per claim 5, Fiamingo disclose the user defined tunable is changed using kernel configuration tools [inherent p. 1 – select kernel parameter values by using the /usr/sbin/sysdef command].
16. As per claim 6, Fiamingo disclose the assigned value and the expression use C programming syntax [table 2 p. 7 – $10+16*\text{maxusers}$] , and where in the assigned value may in one of decimal, octal, or hexadecimal format [10 and 16 are decimal format].
17. As per claim 21, the system of Fiamingo modified by Nemeth teach an expressions that relate one or more kernel tunables to the user-defined tunables. Therefore, inherently, the combine teachings teach the user defined tunable does not control any kernel resource directly.

18. Claims 8-10, 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Compaq "Writing Kernel Module" True UNIX Version 5.1 or higher, August 2000 ("Compaq") in view of Pomerantz.

19. As per claim 8, As per claim 8, Roth teaches an apparatus that provides user-defined tunable for used in UNIX operating system, comprising:

a system interface [Chapter "About This Manual", section Programming Tools Documentation", chapter 10.1], comprising:

a user-defined tunable creation option [chapter 1.2, 1.2.3, chap. 10.1 – 7. build kernel module], and

a system administrator controlled value assignment option [Chap. 1.2.1.2, 3];

a tunable repository that stores the user-defined tunables [Chap. 3.3, 10.1.1-10.1.7];

kernel configuration tools that read the user defined tunables from the tunable repository and relate the user defined tunables to a kernel tunable in the UNIX operating system [inherent, Fig. 3-1], wherein the kernel tunable is created by a developer.

Although not explicitly taught in Compaq that the user defined tunables are created by a system administrator. Compaq however does not explicitly prohibit the system administrator from creating a user-defined tunable only that the method is intended for systems engineers who have a strong background in operating systems based on the UNIX [About this Manual – Audience].

Pomerantz teaches another method relates to the writing of a kernel module. Specifically, Pomerantz teaches anyone who want to write kernel modules can define his or her own kernel module [page 2] which inherent encompass system administrator.

Therefore, at the time of the invention was made, it would have been obvious to one of ordinary skill in the art to have modified the system of Compaq with the user defined tunables being created by a system administrator since as taught by Pomerantz that anyone who want to create his or her own kernel module would able to create it.

20. As per claim 9, Compaq teaches the tunable kernel comprises one or more kernel tunables, and wherein the system administrator interface further comprises means to change values assigned to kernel tunables [chapter 3.1].

21. As per claim 10, Compaq teaches option that allows a system administrator to modify an integer value assigned to a kernel tunable [Chapter 10.5].

22. As per claim 13, Compaq teaches the means for listing one or more kernel tunables and user-defined tunables [inherent].

23. As per claim 14, Compaq teaches the means for listing comprises a verbose option, wherein a complete description of the kernel tunables is presented [inherent].

24. As per claim 15, well know in the art of kernel tunables.

25. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Compaq/Pomerantz as applied to claim 1 above, and further in view of Shearer, Jr. et al. U.S. 6,272,519.

26. As per claim 7, Compaq/Pomerantz does not teach expressly that the user defined tunable may be deleted.

Shearer, Jr. et al. teach another method for enabling the altering or replacing of the kernel tuning parameters. Specifically, Shearer, Jr. et al. teach the user defined tunable may be deleted [col. 9 lines 20-25]. Therefore, it would have been obvious to one of ordinary skill in the art to have modified the system of Compaq/Pomerantz with the delete command of Shearer, Jr. et al. since the delete command is well know in the art of software.

27. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pomerantz.

28. As per claim 16, Pomerantz teaches a method for implementing user-defined tunables in a operating system, comprising:

initializing a kctune command;

[inherent – since a kernel module is writing in a C environment [page 2], it is well know in a art that a command is required to open a text editor where the user can either create, edit, or view a kernel module]

selecting a -u flag to initiate creation of a user-defined tunable;

[Makefile paragraph 1.1 or Crt+N for other text editor]

describing the user defined tunable *[source code chardev.c in chapter 5]*

using an expression, relating the user-defined tunable to one or more kernel tunables,
wherein each of the kernel tunable are created by a developer

[user define kernel tunable (**chardev.c**)

using an expression (`ret_val = ioctl(file_desc, IOCTL_SET_MSG, message;` where
`message = 100`), relating the user-defined tunable to one or more kernel tunables (**ioctl.c**
– chapter 5), wherein each of the kernel tunables are created by a developer
(`linux/modules.h` – library)]

wherein the user-defined tunable is created by a system administrator [user-define
tunable is created by anyone who want to create his or her own kernel module which
obviously included system administrator – page 2] and is a component of kernel module
stored in kernel module stored in a computer readable medium [inherent].

29. As per claim 17, Pomerantz teaches modifying a value of user defined tunable, wherein
values of the one or more related kernel tunables are changed [inherent since by modified the
value of message, the related kernel is change].

30. As per claim 18, well know as disclose by Admitted of Prior Art [paragraph 004].

31. As per claim 19-20, the combine teachings of Pomerantz teaches the method for
implementing user-defined tunable. Therefore, Pomerantz teaches the computer readable
medium having code to implement the user-defined tunable to perform the claimed method.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent T. Tran whose telephone number is (571) 272-7210. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas c. Lee can be reached on (571) 272-3667. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Vincent Tran


CHUN CAO
PRIMARY EXAMINER